RJM Corporation
Ten Roberts Lane
Ridgefield, CT 06877
203 438-6198

October 17, 1991

Mr. Aaron Nissen
Results Supervisor
Intermountain Power Service Corporation
Rte. 1 Box 864
Delta, UT 84624

Ref: B&W Comments Dated 9/24/91

Dear Aaron:

The following comments are referenced by the item numbers as contained in the 9/24/91 B&W comment letter:

Item 1 — B&W concurs with RJM Corporation that segmenting the back ring addresses the buckling problem currently experienced on the burners. However, B&W's recommended gap clearance tapering from 0" at the OD to ¼" at the ID is much too small based on our finite element deformation analysis. This gap should be on the order of .75" for four segments and proportionally smaller for six segments. 4×.75 = 3" 6 segmt @ ½"

Item 2 — We concur with B&W. The latest research reports on in-depth studies performed on similar burners in England show that coal volatility and swirl number are interdependent. This study recommends that outer zone swirl numbers should be between .5 and 1.0. Based on this latest research, RJM is recommending a swirl number in the outer zone of .91.

Item 3 — I believe after B&W discusses the recirculation parameter with their CFD experts, they will understand the recirculation trends predicted by RJM Corporation.

Item 4 — RJM must disagree strongly with B&W. Introducing swirl into an air balancing program introduces error by the amount of 1% for every 10° change in the vector direction of the air from an axial position. Air balancing must occur with the air doors in the 100% open position for accurate results and then the air doors properly set on all the burners to the same position. If this procedure is followed, there will be no unbalanced burners.

Item 5 — No comment.

Item 6 As stated earlier, with the swirler in place flame scanning may be more difficult. The B&W concept of having the flame scanner upstream of the lighter when viewed from the rotation of the combustion air increases the difficulty of flame scanning. Adding an additional site window, such as will occur when the swirlers are installed, might add to scanning limitations. However, this question will be quickly answered after the swirlers are installed on Unit 2. A decision can be delayed as to whether or not a second scanner should be installed on Unit 1 until after Unit 2 comes back on line.

Additional comments with reference to the B&W drawings:

1. B&W does not provide any detail of the back plate assembly. RJM Corporation, therefore, cannot make any critical analysis until that detail has been received. IPSC should not approve B&W's design until these details have been received and reviewed carefully. Also, radial support bars for the throat sleeve assembly and outer zone register assembly must be included in B&W's design.

2. RJM Corporation has no objection to B&W utilizing six segments instead of four as proposed by RJM Corporation, provided the ID, OD and butt gaps are sufficiently large to permit growth of the plate.

3. The attached drawing shows RJM's recommended method of mounting the back plate using two supports. This keeps the plate properly centered in the back plate assembly, prevents cocking, and allows the plate to grow without binding. If B&W is just installing segmented plates between two channels as the drawings seem to indicate IPSC can expect problems when the plates cock and bind due to thermal growth. Some form of centering support is required.

If you have any questions or comments, please feel free to give me a call.

Very truly yours,

Richard J. Monro
President

RJM/sv
ipscb&w.ltr
Enclosure

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RJM

FACSIMILE TRANSMITTAL COVER SHEET

DATE: 10/17/91 **FAX NO.:**

Please deliver the following pages to:

COMPANY: IPSC **NAME:** AARON NISSEN

REFERENCE: RJM COMMENTS ON B&W POSITION PAPER

THIS FAX IS FROM: RICHARD MONRO

Number of pages 3 **(including cover sheet) transmitting from Xerox Telecopier 7032 (telephone 203 431-8255)**

MESSAGE:

If you do not receive all the pages, please call back as soon as possible. 203-438-6198.

Gabs to Bruce

cc.

Memo
attach BHW notes
KJM notes

Want BHW to incorporate these recommendations

12-309
12-314

Response to 10/15 meeting

BHW design approval on new burners

Conditional approval pending incorporate implementation of following recommendations (since no details)

Difficult to approve w/o design detail on backplate assembly
Conditional approval w/ these exceptions

We want finalized detail drawing prior to final approval
drawing for evaluation

Comments / Recommended changes.

Backplate — clearances, slip cover, radial supports

Throat Sleeve moving

T13

IP7_003955